

**DRAWING NOTES**

- EXISTING EQUIPMENT AND WIRING TO REMAIN.
- EXISTING EQUIPMENT AND WIRING TO BE DEMOLISHED AND DISPOSED OUT OF NRC PROPERTY.
- EXISTING BREAKERS TO BE RELOCATED TO NEW PANEL. REFER TO E02
- EXISTING FEEDERS TO BE RELOCATED TO NEW SOURCE. REFER TO E02
- DISCONNECT EXISTING EQUIPMENT AND RETURN TO NRC.
- CARRY COST TO REINSTATE EXISTING DDC POINT BY AIRTRON.  
- CONTACT AARON DOSSON, Phone office: (613) 247-7938  
Phone mobile: (613) 203-1951, Fax: (613) 247-7990  
Aaron.Dobson@AirtronCanada.com
- RELOCATE EXISTING PANEL "AC", REFER TO E03 - CIRCUITS.

**GENERAL NOTES**

CONTRACTORS TO CHECK AND VERIFY ALL DIMENSIONS ON SITE PRIOR TO DEMOLITION, CONSTRUCTION OR TRANSPORTATION, AND REPORT ANY ERRORS OR OMISSIONS TO NRC DEPARTMENTAL REPRESENTATIVE BEFORE MANUFACTURE.

CONTRACTORS MUST VISIT THE SITE & FULLY FAMILIARIZE THEMSELVES WITH THE SCOPE OF WORK BEYOND THE WORK AREA AND CLEAN ALL SURFACES AT COMPLETION.

MAKE GOOD ALL SURFACES AFFECTED BY THIS WORK.

FILL ALL HOLES, PATCH & PAINT ALL SURFACES IN CONTRACTOR AREA. COLOUR SCHEME TO MATCH EXISTING. DISPOSE OF OFF SITE UNLESS OTHERWISE NOTED.

PROVIDE LABELS TO NEW DEVICES TO INDICATE POWER SOURCE. UPDATE PANEL SCHEDULES AFTER JOB COMPLETION.

THE WORD "PROVIDE" MEANS SUPPLY, INSTALL, CONNECT AND TEST.

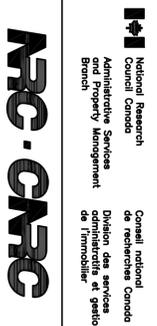
THE WORD "WIRING" MEANS WIRES/CABLE AND FACEWAY.

ALL WIRE TO BE IN EMT UNLESS OTHERWISE NOTED.

CONTRACTOR TO VERIFY INTEGRITY OF EXISTING RACEWAY BY PULLING A BRUSH AND MANIPUL. BEFORE WIRING.

ALWAYS PERFORM SCAN BEFORE CORE DRILL. VERIFY PHASING AND ROTATION. MATCH THE EXISTING SYSTEM.

CONTRACTOR IS RESPONSIBLE FOR REPAIR OF ANY DAMAGES TO ANY EXISTING BUILDING COMPONENT CAUSED BY CONSTRUCTION ACTIVITIES.



No.	Date	Revision	Date Imprinte
0	NOV/21/2017	ISSUED FOR TENDER	KXL

Panel	Location	Equipment
PANEL L1	CL. W-107	90A 90A
PANEL L2	CL. W-211	90A 90A
PANEL L3	CL. W-211	90A 90A
PANEL L4	CL. W-211	90A 90A
PANEL L5	CL. W-211	90A 90A
PANEL L6	CL. W-211	90A 90A
PANEL L7	CL. W-211	90A 90A
PANEL L8	CL. W-211	90A 90A
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PANEL L99	CL. W-211	90A 90A
PANEL L100	CL. W-211	90A 90A

**MONTREAL ROAD CAMPUS**

**BUILDING M-58 MAIN ELECTRICAL ROOM UPGRADE**

Project: MONTREAL ROAD CAMPUS

Project No: A1-006947-07-01

Project Date: SEP/2016

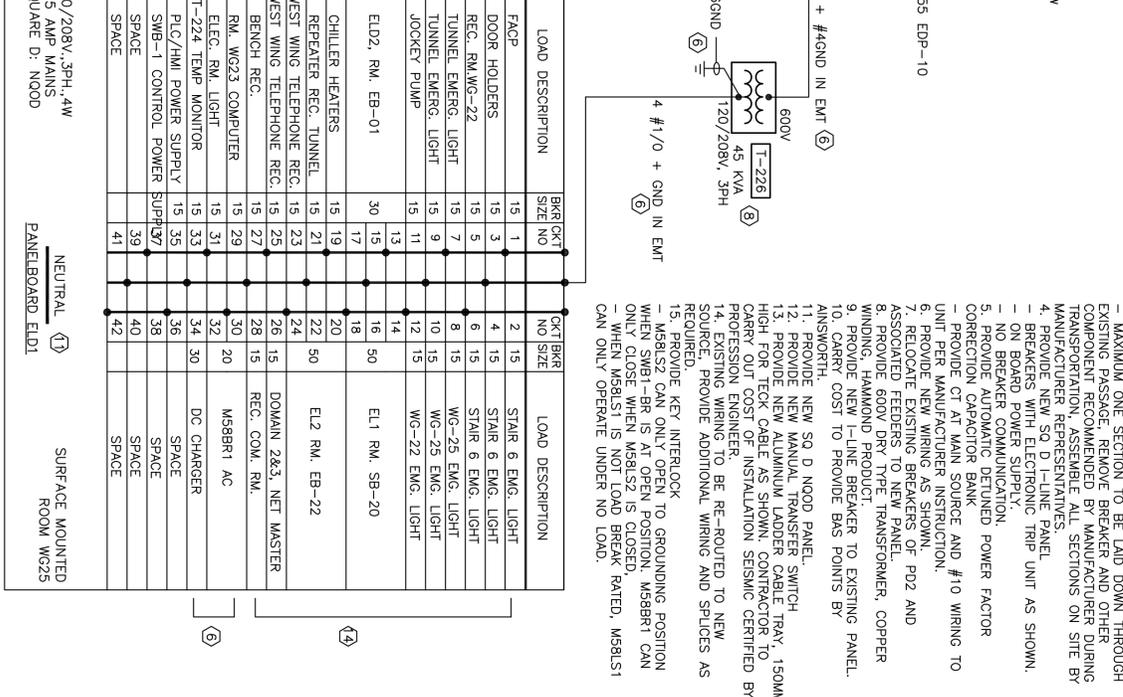
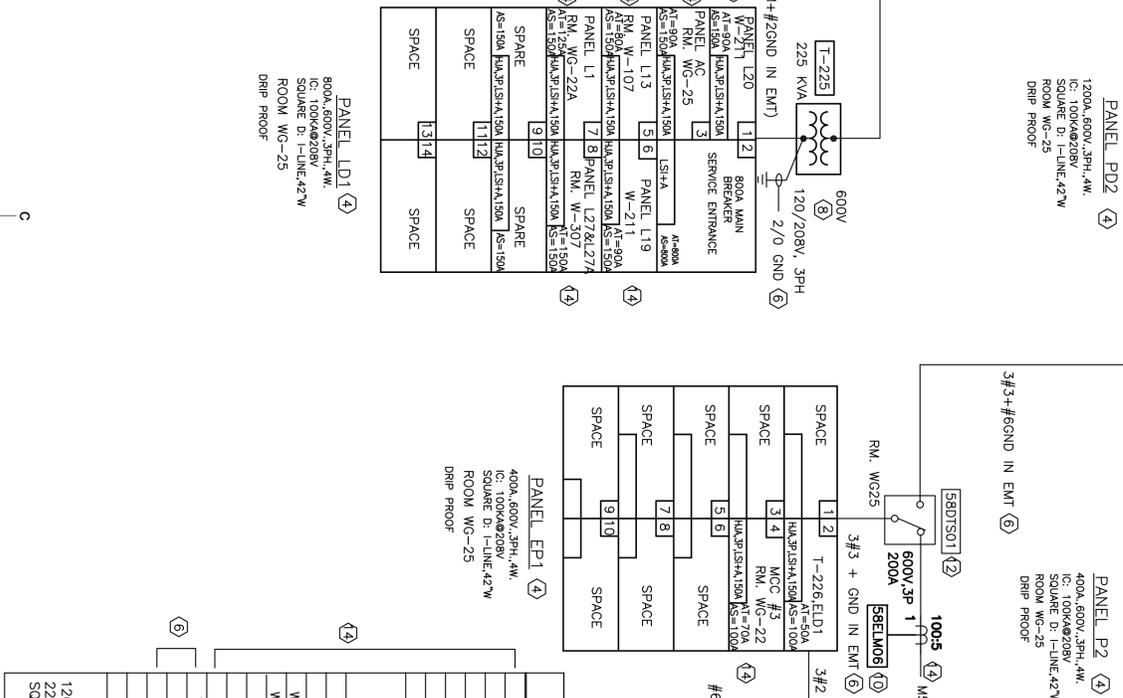
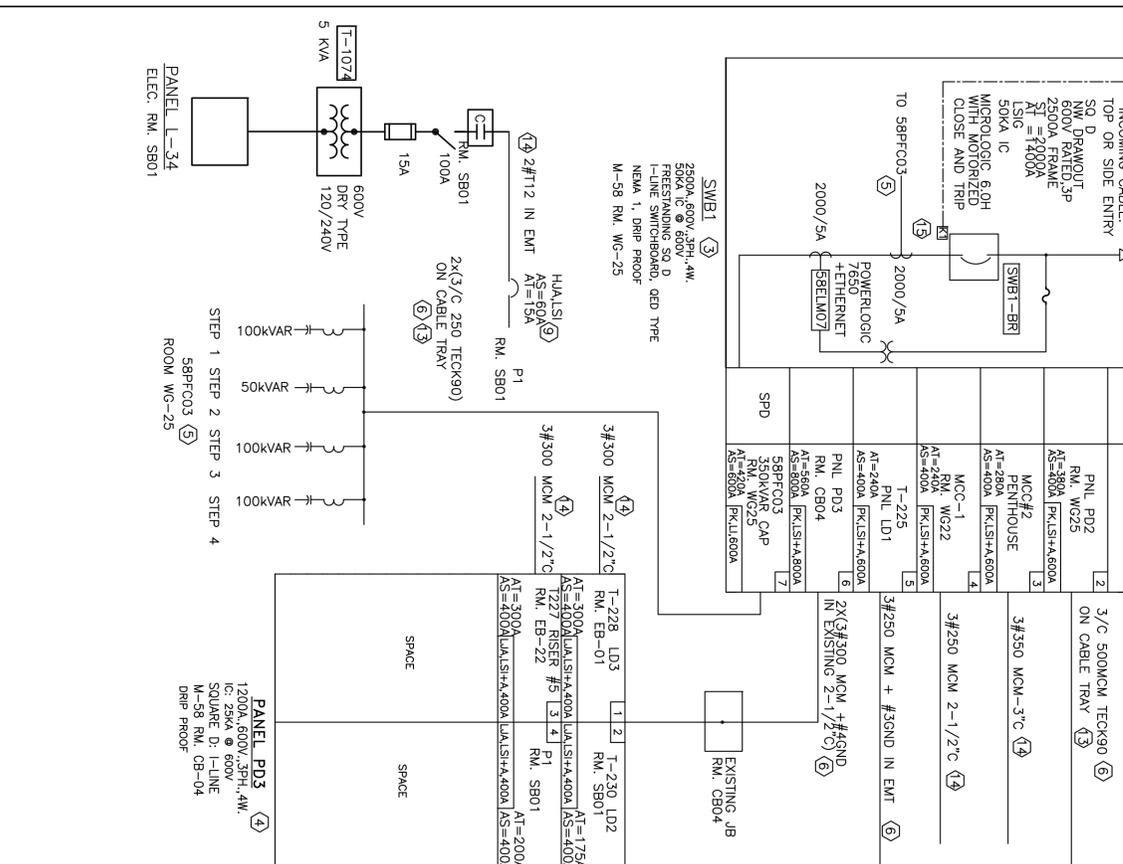
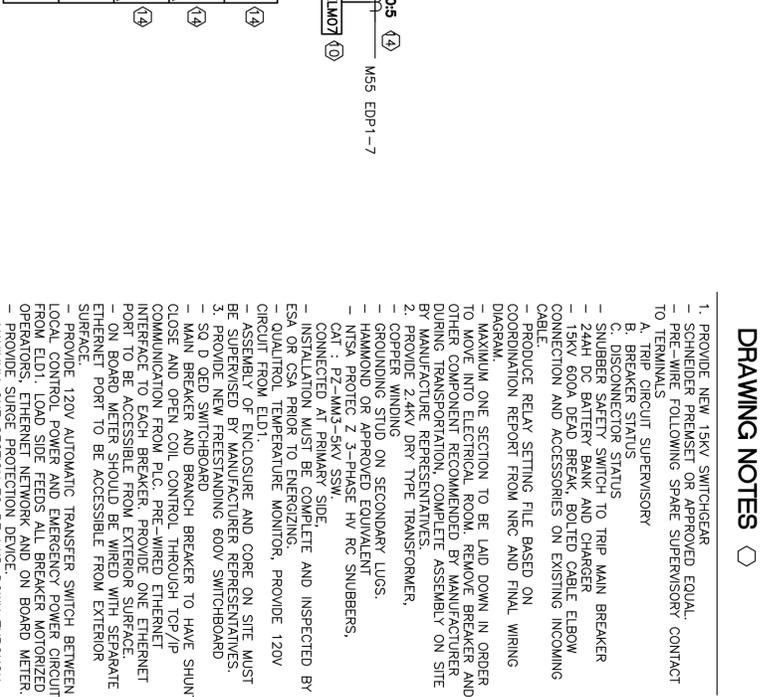
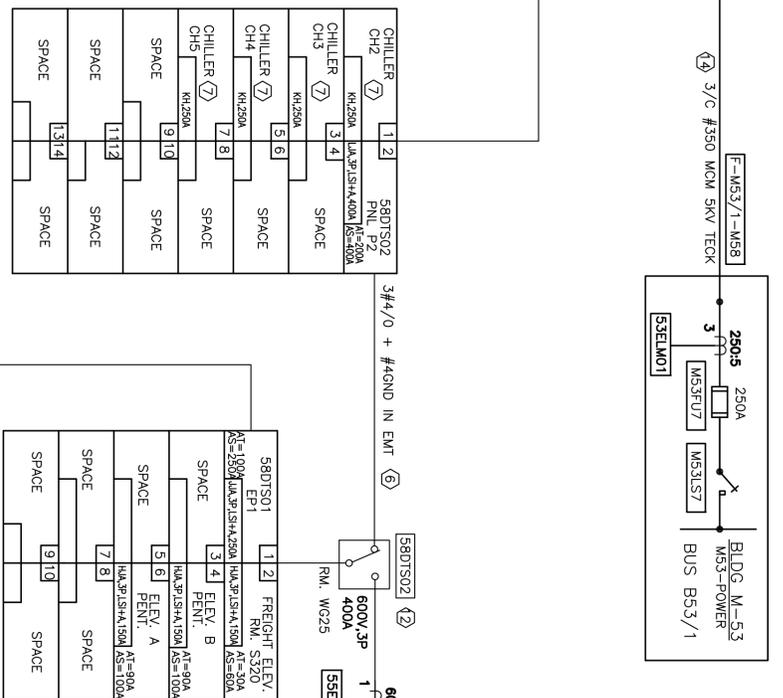
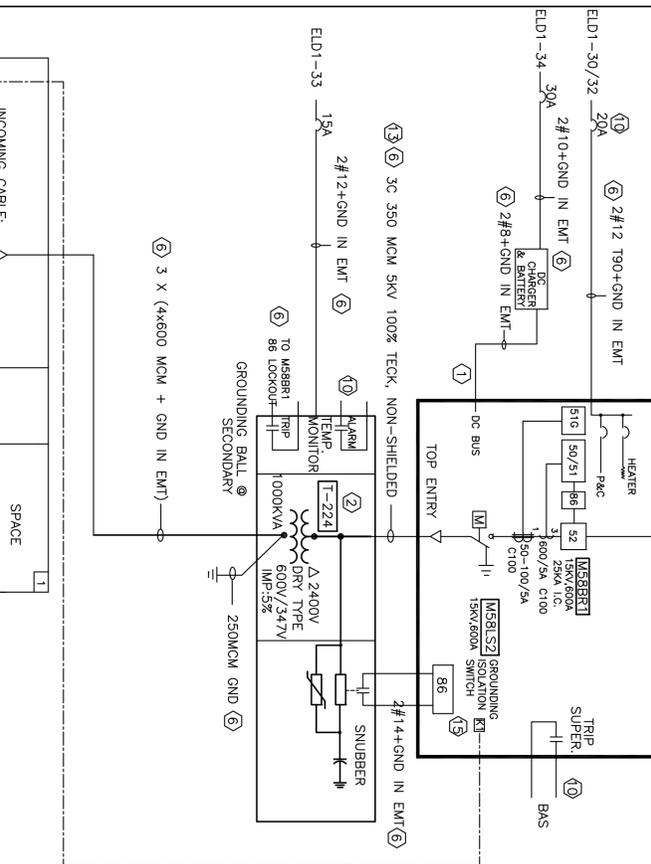
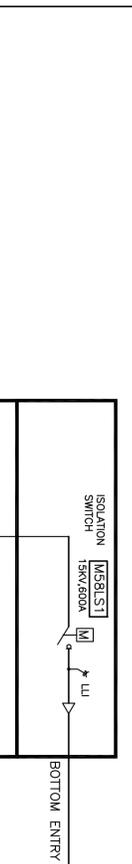
Project Location: 5160-E01

Project Designer: KXL

Project Checker: DIF

Project Approver: DIF

Project Date: 07/2016



**DRAWING NOTES**

1. PROVIDE NEW 15KV SWITCHGEAR
2. SCHEDULED PRESENT OR APPROVED EQUIP.
3. PRE-WIRE FOLLOWING SPARE SUPERVISORY CONTACT TO TRIP CIRCUIT SUPERVISORY
4. BREAKER STATUS
5. DISCONNECTOR STATUS
6. SUBBASKET SAFETY SWITCH TO TRIP MAIN BREAKER
7. 24AH DC BATTERY BANK AND CHARGER
8. 15KV 600A DEAD BREAK, BOLTED CABLE ELBOW CONNECTION AND ACCESSORIES ON EXISTING INCOMING CABLE.
9. PRODUCE RELAY SETTING FILE BASED ON COORDINATION REPORT FROM NRC AND FINAL WIRING DIAGRAM.
10. MAXIMUM ONE SECTION TO BE LAID DOWN IN ORDER TO MAINTAIN THE REQUIRED MINIMUM CLEARANCE DURING TRANSPORTATION. COMPLETE ASSEMBLY ON SITE BY MANUFACTURER REPRESENTATIVES.
11. PROVIDE 2.4KV DRY TYPE TRANSFORMER.
12. COPPER WINDING
13. GROUNDING STUD ON SECONDARY LUGS.
14. HAZARDOUS OR APPROVED EQUIVALENT
15. NISA PROTECT Z 3-PHASE HV RC SNUBBERS, CAT: PZ-MM3-SKV SSW.
16. CONNECTED AT PRIMARY SIDE.
17. INSTALLATION MUST BE COMPLETE AND INSPECTED BY ESK OR CSA PRIOR TO ENERGIZING.
18. CHILLER FROM TEMPERATURE MONITOR, PROVIDE 120V CIRCUIT FROM TEMPERATURE MONITOR, PROVIDE 120V ASSEMBLY OF ENCLOSURE AND COPE ON SITE MUST BE SUPERSEDED BY MANUFACTURER REPRESENTATIVES.
19. PROVIDE NEW FREESTANDING 600V SWITCHBOARD
20. MAIN BREAKER AND BRANCH BREAKER TO HAVE SHUNT CLOSE AND OPEN COIL CONTROL THROUGH TOP/IP COMMUNICATION FROM PLC. PRE-WIRED ETHERNET INTERFACE TO EACH BREAKER. PROVIDE ONE ETHERNET PORT TO BE ACCESSIBLE FROM EXTERIOR SURFACE.
21. ON BOARD METER SHOULD BE WIRED WITH SEPARATE ETHERNET PORT TO BE ACCESSIBLE FROM EXTERIOR SURFACE.
22. PROVIDE 120V AUTOMATIC TRANSFER SWITCH BETWEEN LOCAL AND REMOTE EMERGENCY STOP FEEDER FROM OPERATOR'S ETHERNET NETWORK AND ON BOARD METER.
23. PROVIDE SURGE PROTECTION DEVICE
24. MAXIMUM ONE SECTION TO BE LAID DOWN THROUGH EXISTING PASSAGE. REMOVE BREAKER AND OTHER COMPONENT RECOMMENDED BY MANUFACTURER DURING TRANSPORTATION. ASSEMBLE ALL SECTIONS ON SITE BY MANUFACTURER REPRESENTATIVES.
25. PROVIDE NEW SQ D 1-LINE PANEL
26. BREAKERS WITH ELECTRONIC TRIP UNIT AS SHOWN.
27. ON BOARD POWER SUPPLY.
28. NO BREAKER COMMUNICATION.
29. PROVIDE AUTOMATIC DETOUR POWER FACTOR CORRECTOR CAPACITAN SOURCE AND #10 WIRING TO UNIT. REFER MANUFACTURER'S INSTRUCTION.
30. PROVIDE NEW WIRING AS SHOWN.
31. RELOCATE EXISTING BREAKERS OF P02 AND ASSOCIATED FEEDERS TO NEW PANEL.
32. PROVIDE 600V DRY TYPE TRANSFORMER. COPPER WINDING. HAZARDOUS OR APPROVED EQUIVALENT
33. CARRY COST TO PROVIDE BUS POINTS BY ANSWORTH.
34. PROVIDE NEW SQ D NOOD PANEL.
35. PROVIDE NEW ALUMINUM TRANSFER SWITCH
36. PROVIDE NEW ALUMINUM LADDER CABLE TRAY. 150MM HIGH OR TECH. CABLE AS SHOWN. CONTRACTOR TO NOTIFY NRC OF ANY CHANGES TO INSTALLATION DESIGN IDENTIFIED BY PROFESSIONAL ENGINEER.
37. EXISTING WIRING TO BE RE-ROUTED TO NEW SOURCE. PROVIDE ADDITIONAL WIRING AND SPLICES AS REQUIRED.
38. PROVIDE KEY INTERLOCK
39. M58LS2 CAN ONLY OPEN TO GROUNDING POSITION WHEN SWB1-BR IS AT OPEN POSITION. M58BR1 CAN ONLY CLOSE WHEN M58LS2 IS CLOSED.
40. WHEN M58LS2 IS NOT LOAD BREAK RATED. M58LS1 CAN ONLY OPERATE UNDER NO LOAD.

**GENERAL NOTES**

CONTRACTORS TO CHECK AND VERIFY ALL DIMENSIONS ON SITE PRIOR TO DEMOLITION, CONSTRUCTION OR TRANSPORTATION, AND REPORT ANY ERRORS OR OMISSIONS TO NRC DEPARTMENTAL REPRESENTATIVE BEFORE WORK STARTS AND NEW EQUIPMENT IS MANUFACTURED.

CONTRACTORS MUST VISIT THE SITE & FULLY FAMILIARIZE THEMSELVES WITH THE SCOPE OF THE WORK.

PREVENT THE SPREAD OF DUST & DEBRIS BEYOND THE WORK AREA AND CLEAN ALL SURFACES AT COMPLETION.

MAKE GOOD ALL SURFACES AFFECTED BY THIS WORK.

FILL ALL HOLES, PATCH & PAINT ALL SURFACES IN CONTACT WITH AREA. COLOUR REMOVE MEANS REMOVE AND DISPOSE OF OFF SITE UNLESS OTHERWISE NOTED.

PROVIDE LABELS TO NEW DEVICES TO INDICATE POWER SOURCE. UPDATE PANEL SCHEDULES AFTER JOB COMPLETION.

THE WORD "PROVIDE" MEANS SUPPLY, INSTALL, CONNECT AND TEST.

THE WORD "WIRING" MEANS WIRES/CABLE AND RACEWAY.

IT SHALL BE IN EMT UNLESS OTHERWISE NOTED.

COOPERATIVE ALL SHUTDOWNS WITH THE NRC DEPARTMENTAL REPRESENTATIVE OUTAGE IS ONLY SCHEDULED DURING WEEKEND OR AFTER HOUR, UNLESS OTHERWISE SPECIFIED BY NRC REPRESENTATIVE.

ANY WEEKEND OUTAGE MUST BE CARRIED BETWEEN FRIDAY 1800 AND MONDAY 0300 BETWEEN HOUR OUTAGE MUST BE CARRIED BETWEEN SAME DAY 1800 AND NEXT DAY 0300

ALL LOADS TO BE RESUMED AT THE END OF OUTAGE

TO USE NRC OWNED CRANE ON SITE, CONTRACTOR IS REQUIRED TO PROVIDE OWN CERTIFIED CRANE OPERATOR, AND OBTAIN THE CRANE BEFORE AND AFTER EACH OPERATION. CONTRACTOR TO VERIFY INTEGRITY OF EXISTING RACEWAY BY PULLING A BRUSH AND MANUREL BEFORE WIRING.

ALWAYS PERFORM SCAN BEFORE CORE DRILL.

VERIFY PHASING AND ROTATION, MATCH THE EXISTING SYSTEM.

CONTRACTOR IS RESPONSIBLE FOR REPAIR OF COMPANETS TO ANY EXISTING BUILDING COMPONENT CAUSED BY CONSTRUCTION ACTIVITIES.

**NRC-CNRC**

National Research Council Canada  
Administrative Services  
Operative Management  
Branch

Conseil national Canada  
de recherches  
Division des services  
administratifs et gestion  
des ressources  
Branch

No.	Date	Revision	By:	For:
0	NOV/21/2017	ISSUED FOR TENDER	KXL	KXL

Date Printed: SEP 2017

Verify all dimensions and site conditions and be responsible for same

Verifier vérifie toutes les dimensions et l'état des lieux et en assume la responsabilité

designed	approved	checked	approved
KXL	KXL	DIF	DIF

Project: **BUILDING M-58 MAIN ELECTRICAL ROOM UPGRADE**

Project: **MONTREAL ROAD CAMPUS**

Drawing: **NEW SINGLE LINE DIAGRAM**

Project: **NEW SINGLE LINE DIAGRAM**

designed	approved	checked	approved
KXL	KXL	DIF	DIF

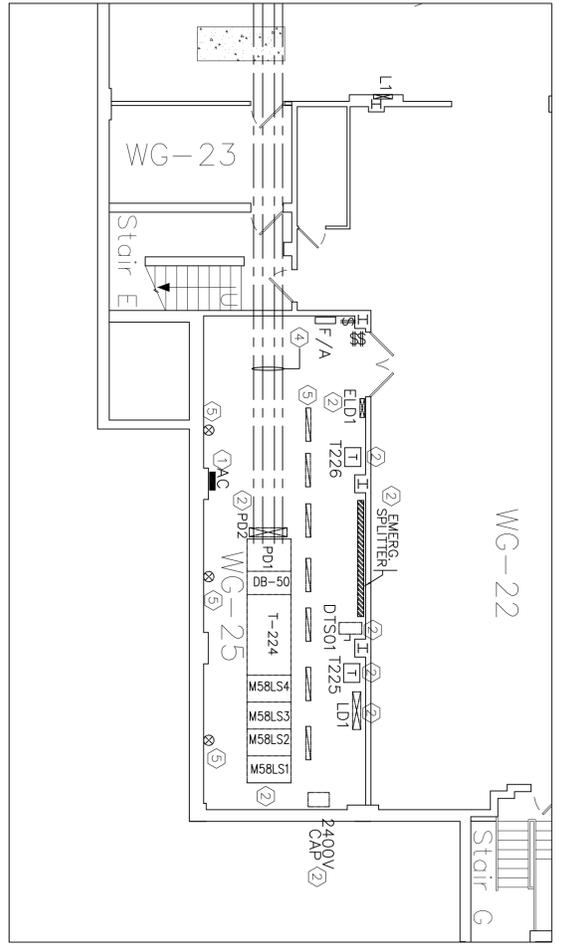
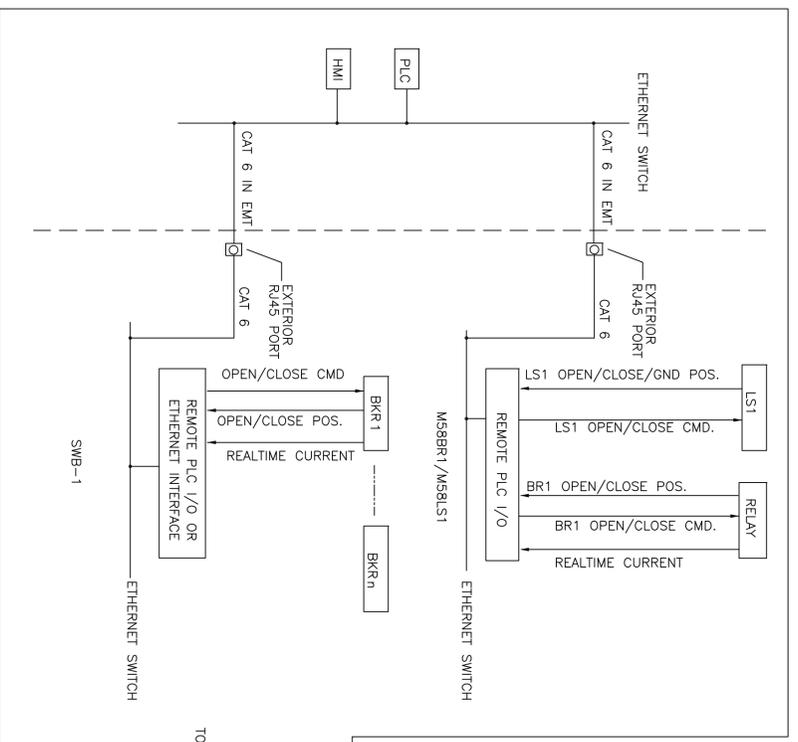
Project: **BUILDING M-58 MAIN ELECTRICAL ROOM UPGRADE**

Project: **MONTREAL ROAD CAMPUS**

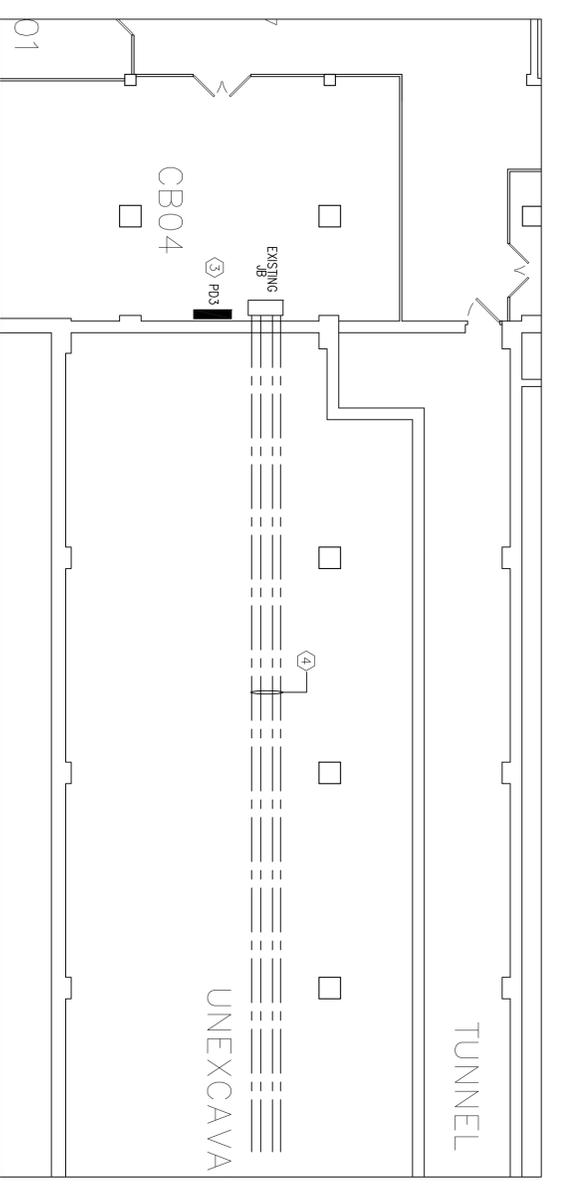
Drawing: **NEW SINGLE LINE DIAGRAM**

Project: **NEW SINGLE LINE DIAGRAM**

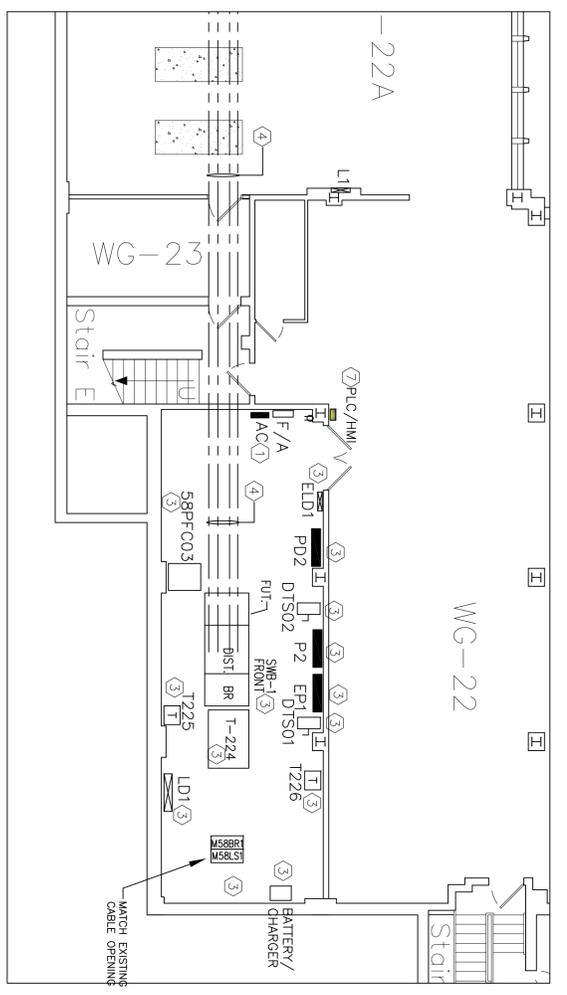
- DRAWING NOTES**
- EXISTING EQUIPMENT TO BE RELOCATED.
  - EXISTING EQUIPMENT TO BE REMOVED.
  - PROVIDE NEW EQUIPMENT AS PER E02
  - EXISTING UNDERGROUND DUCTS TO BE REUSED.
  - DISCONNECT AND REMOVE EXISTING (10) LIGHTING FIXTURES. PROVIDE NEW LED STRIP LIGHTS AT SAME LOCATION. REUSE EXISTING CIRCUIT AND WIRING.
  - PHILIPS CFI FLUXSTREAM LINEAR LED, 3900 LUMEN, 4000K, 0-10V DIMMING, 120V, 4' LENGTH  
 CAT: LF4FR3940UDZT
  - TO MINIMIZE OUTAGE TO THE BUILDING, NRC PROPOSES FOLLOWING WORK FLOW. CONTRACTOR REFERS TO GENERAL NOTES FOR ALLOWABLE OUTAGE TIME, APPLY TEMPORARY FEEDS AS NECESSARY:  
 - DEMOLISH EXISTING EMERGENCY SPLITTER, T-226/ELD1, T-229/LD1, COMPLETE P2, EP1, T-226/ELD1 AND T-229/LD1 SPLITTER, EXISTING PDI AND PDI2, COMPLETE NEW PDI2, DEMOLISH EXISTING MV SWITCH AND T-224, INSTALL NEW MS9B1/MS9L1 AND T-224
  - PROVIDE COMPLETE PLC/HMI SYSTEM AND NETWORK CABLING. REFER TO SPECIFICATION SECTION 26 09 50.



1 EXISTING ELECTRICAL ROOM LAYOUT  
 SCALE: 1:100



3 ROOM CB04 LAYOUT  
 SCALE: 1:100



2 NEW ELECTRICAL ROOM LAYOUT  
 SCALE: 1:100

designed	conçu	date	date
KXL		MAY/2016	
drawn	dessiné	scale	échelle
KXL		AS NOTED	
checked	vérifié	sheet	feuille
DIF		E03	E03
approved	approuvé	W.O.no.	D.T.no.
DIF		A1-006947-07-01	
diag.no.			dessin no.
5160-E03			